

Figure 1  
(Prior Art)

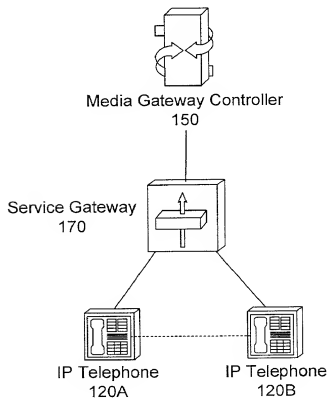


Figure 2

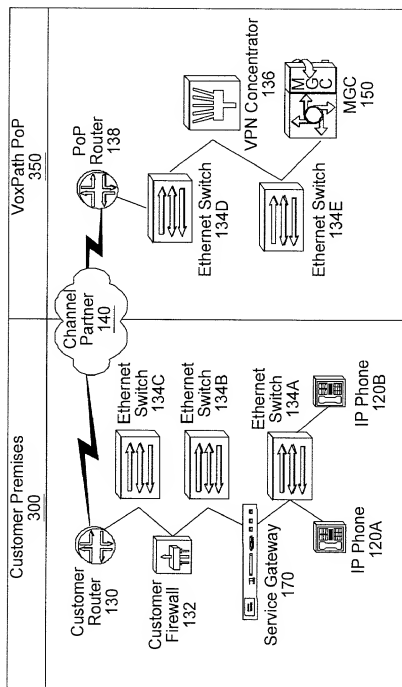


Figure 3A

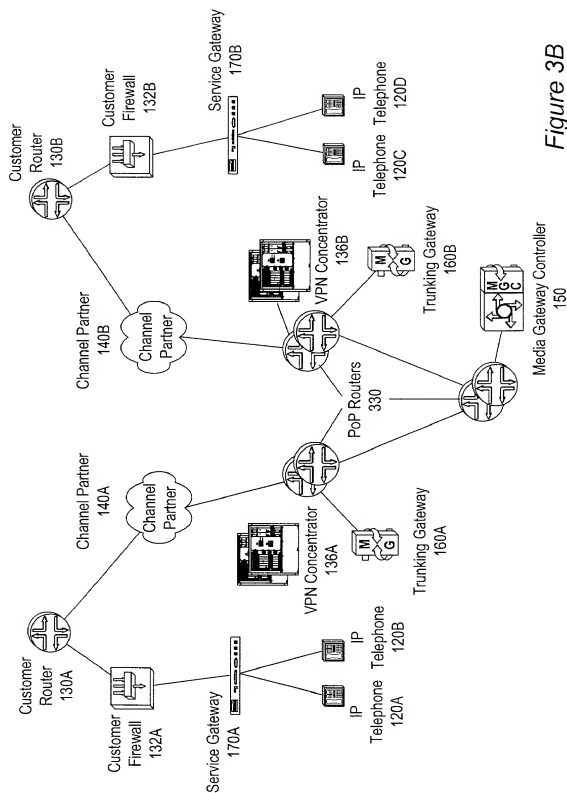
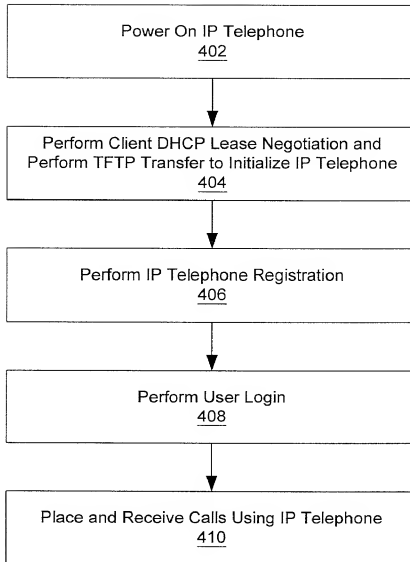


Figure 3B

*Figure 4A*

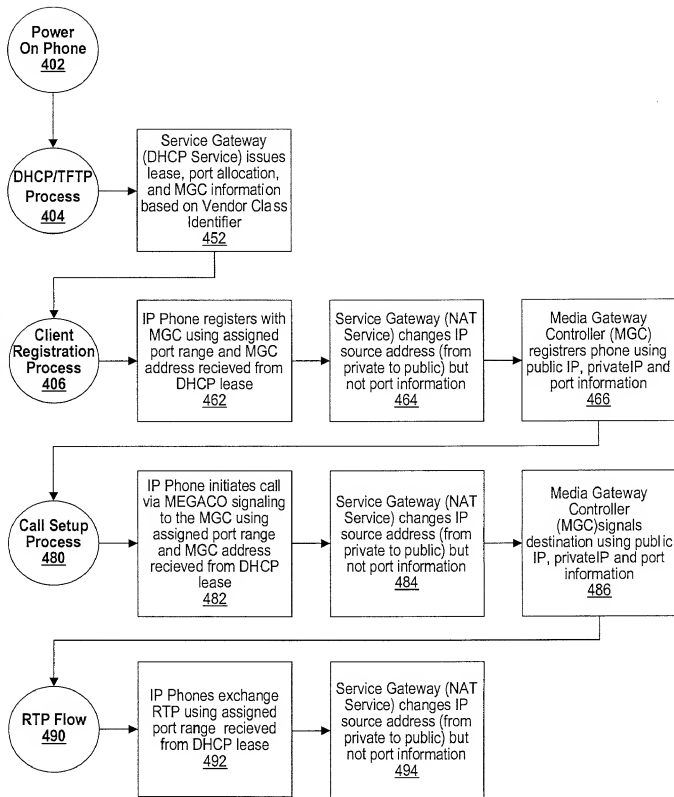


Figure 4B

# CLIENT DHCP LEASE NEGOTIATIONS 404

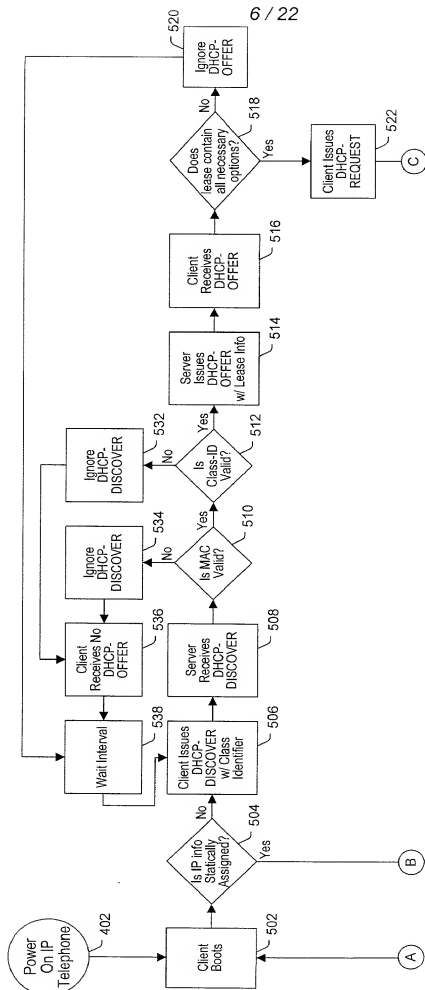


Figure 5A

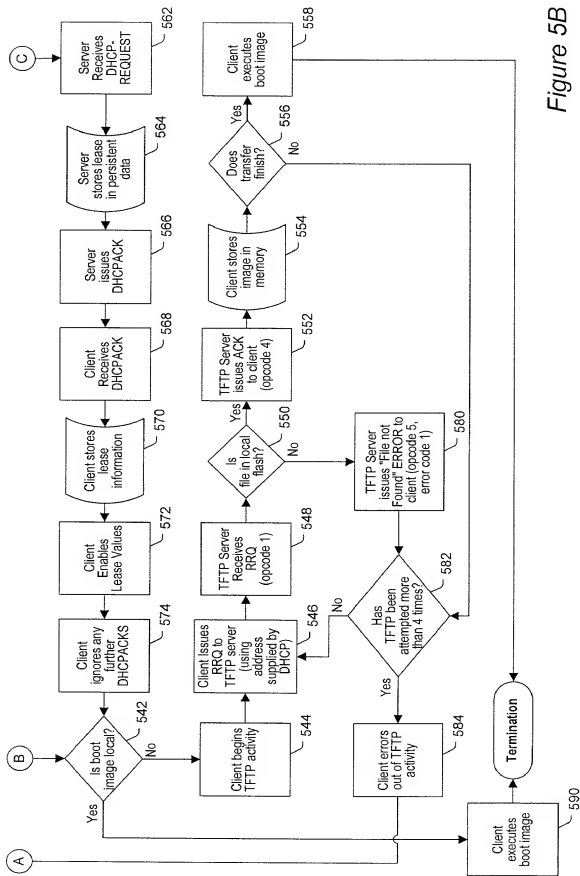


Figure 5B

# MEGACO REGISTRATION FLOW 406

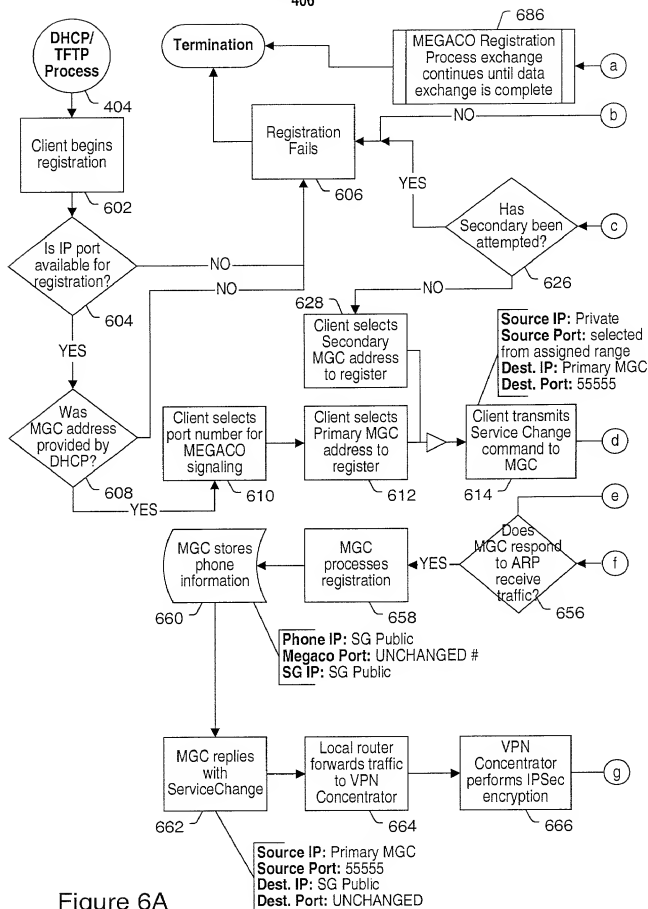


Figure 6A



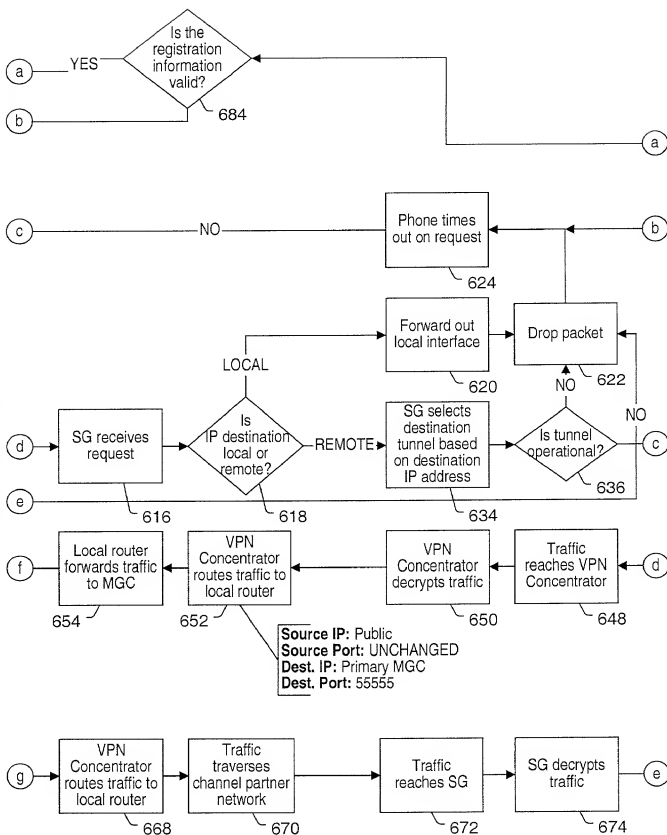


Figure 6B

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graph TD
    A((a)) --> 682[Phone processes registration]
    682 --> 680{Does Phone respond to ARP/receive traffic?}
    680 -- YES --> 682
    680 -- NO --> 638[SG performs NAPPT]
    638 --> 640[SG performs IPsec encryption]
    640 --> 644[SG forwards traffic over selected tunnel]
    644 --> 646[Traffic traverses channel partner network]
    646 --> 676[SG performs NAPPT]
    676 --> 678[Forward out local interface]
    678 --> 680
  
```

**Network Address Persistent Port Translation (NAPPT):**  
 Source IP: Private to Public  
 Source Port: UNCHANGED  
 Dest. IP: Primary MGC  
 Dest. Port: 55555

**Source IP: SG External Address**  
**Dest. IP: VPN Concentrator**

**Network Address Persistent Port Translation (NAPPT):**  
 Source IP: Primary MGC  
 Source Port: 55555  
 Dest. IP: Public to Private  
 Dest. Port: UNCHANGED

Figure 6C



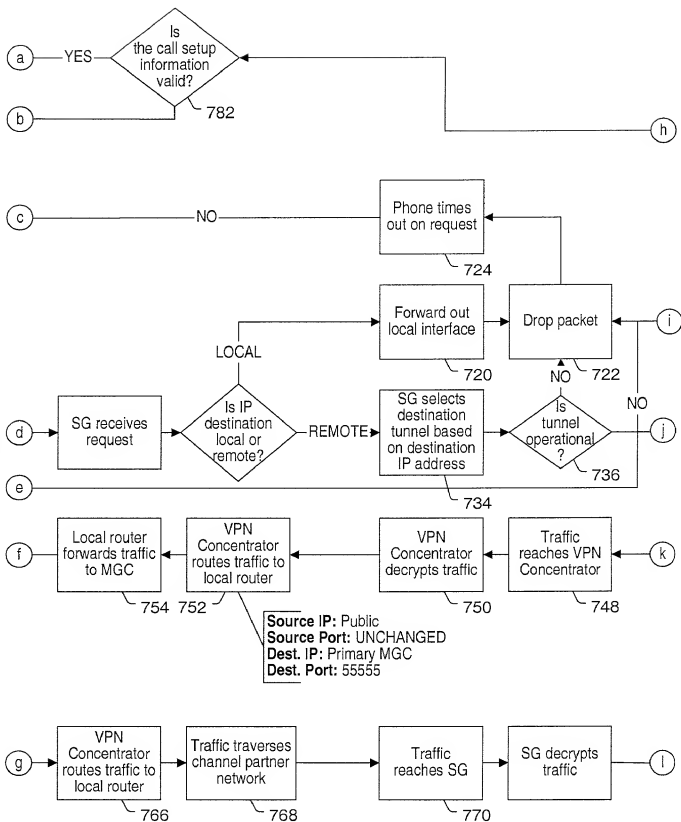


Figure 7B

The flowchart illustrates the Network Address Persistent Port Translation (NAPPT) process, starting from a decision point and branching into two paths based on whether the phone responds to ARP or receives traffic.

**Initial Decision:**

- Does Phone respond to ARP/receive traffic?**
- If **YES**, the process proceeds to **Phone processes information** (780).
- If **NO**, the process proceeds to **SG performs IPsec encryption** (740).

**Path 1 (YES):**

- Phone processes information** (780) leads to **SG performs NAPPT** (738).
- SG performs NAPPT** (738) leads to **Traffic traverses channel partner network** (746).
- Traffic traverses channel partner network** (746) leads to **SG forwards traffic over selected tunnel** (744).
- SG forwards traffic over selected tunnel** (744) leads to **Forward out local interface** (776).

**Path 2 (NO):**

- SG performs IPsec encryption** (740) leads to **SG forwards traffic over selected tunnel** (744).
- SG forwards traffic over selected tunnel** (744) leads to **Forward out local interface** (776).

**NAPPT Details:**

- Network Address Persistent Port Translation (NAPPT):**
  - Source IP:** Private to Public
  - Source Port:** UNCHANGED
  - Dest. IP:** Primary MGC
  - Dest. Port:** 55555
- Network Address Persistent Port Translation (NAPPT):**
  - Source IP:** SG External Address
  - Dest. IP:** VPN Concentrator

**Labels:**

- h**: Initial input to the decision diamond.
- i**: Input to the first NAPPT box.
- j**: YES label for the transition from the first NAPPT box to the IPsec encryption box.
- k**: Input to the Traffic traverses channel partner network box.
- l**: Input to the second NAPPT box.

Figure 7C

## INTERNAL PHONE to INTERNAL PHONE RTP FLOW

490A

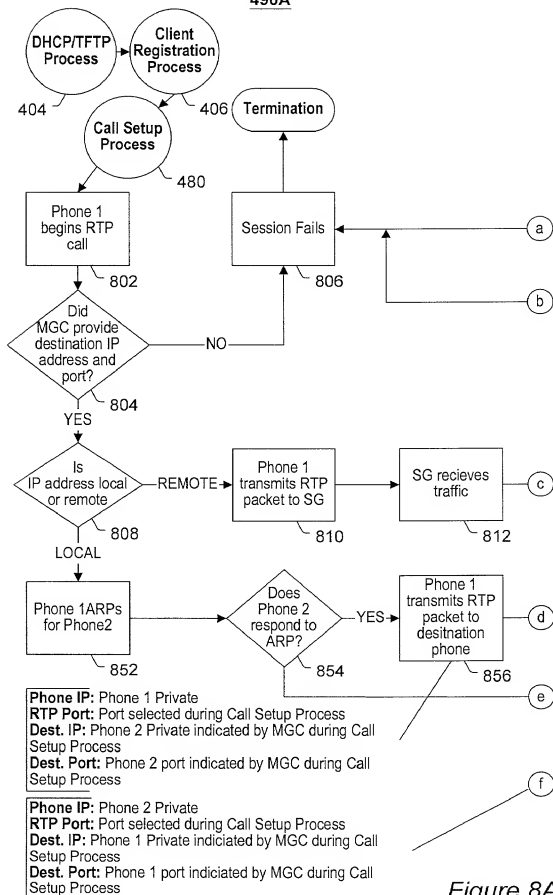


Figure 8A

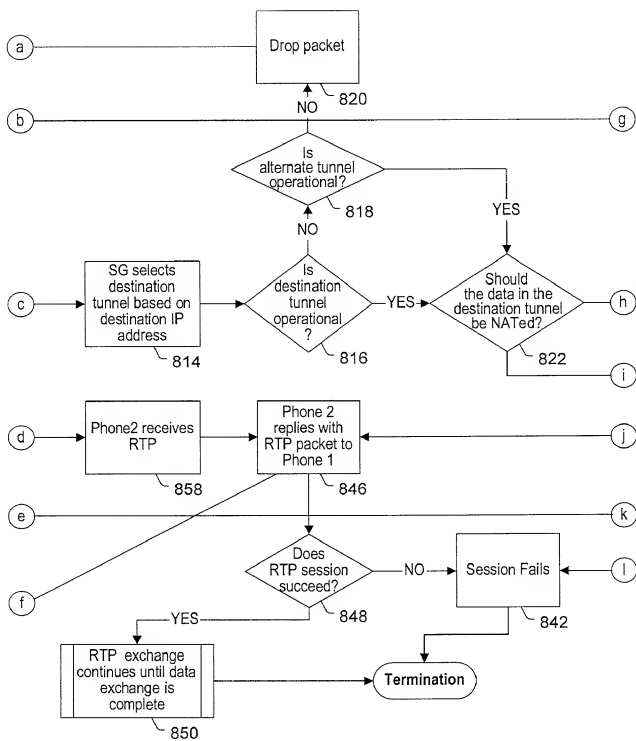


Figure 8B

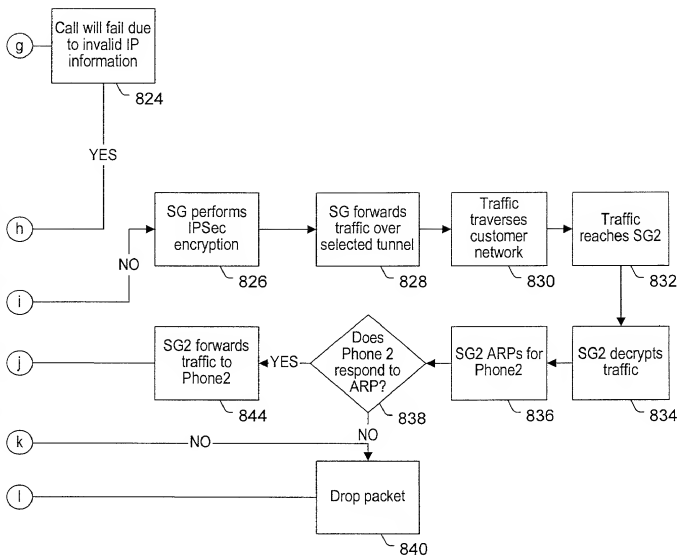
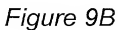


Figure 8C







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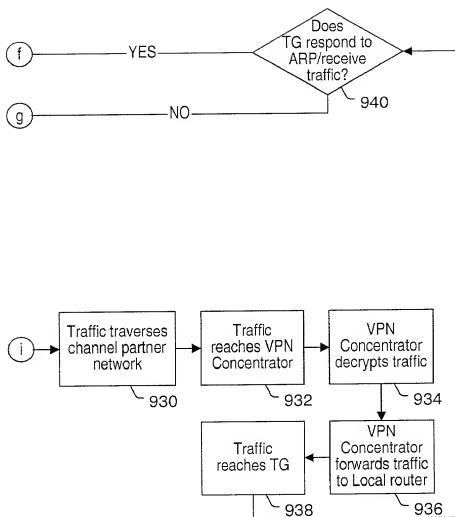


Figure 9C

PHONE to EXTERNAL PHONE RTP FLOW  
490C

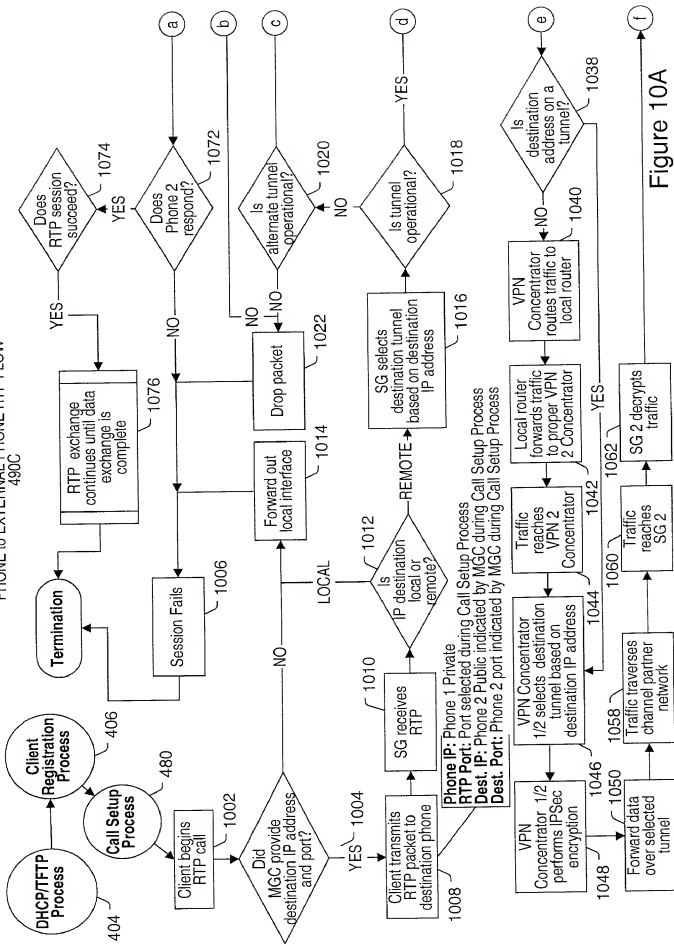


Figure 10A



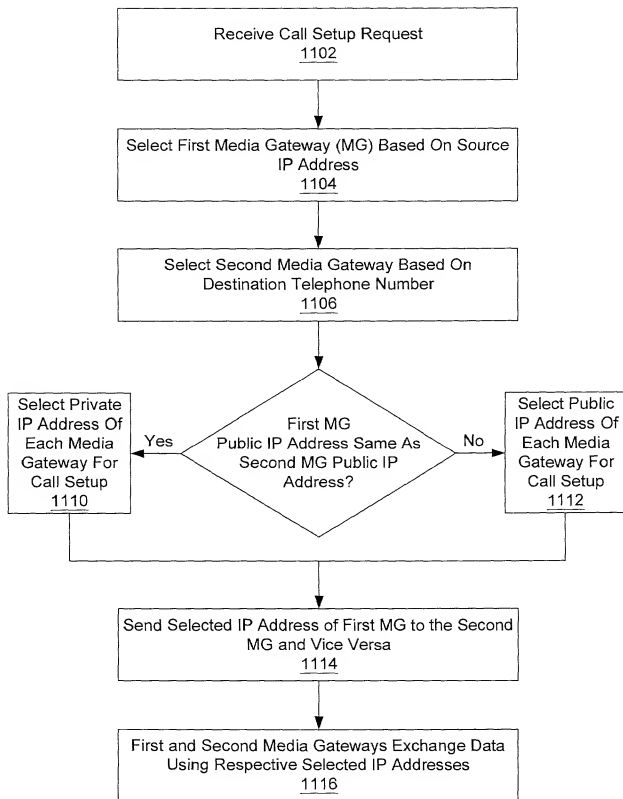


Figure 11